Amendments to the Claims:

Please amend claims 1-3, 24 and 46-47 and amend claim 45. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): A method for producing a fucosylated glycoprotein, the method comprising:

contacting a host cell extract comprising a fucosyltransferase protein having greater than 90% identity to the full-length ~~of an amino acid sequence~~ of SEQ ID NO:16, with a mixture comprising a donor substrate comprising a fucose residue, and an acceptor substrate on a glycoprotein, under conditions where the fucosyltransferase catalyzes the transfer of the fucose residue from a donor substrate to the acceptor substrate on the glycoprotein, thereby producing a fucosylated glycoprotein, wherein the host cell extract is heterologous to the fucosyltransferase protein.

2. (Currently Amended): The method of claim 1, wherein the polypeptide comprises an amino acid sequence having greater than 95% identity to ~~an amino acid sequence~~ the full-length of SEQ ID NO:16.

3. (Currently Amended): The method of claim 1, wherein the polypeptide comprises ~~an amino acid sequence of~~ SEQ ID NO:16.

4. (Withdrawn): The method of claim 1, wherein the polypeptide further comprises an amino acid tag.

5. (Withdrawn): The method of claim 1, wherein the method further comprises a step of purifying the fucosylated glycoprotein.

6. (Withdrawn): The method of claim 1, wherein the acceptor substrate is selected from a glucose residue and an N-acetylglucosamine residue.

7. (Withdrawn): The method of claim 1, wherein an acceptor substrate on the glycoprotein comprises Galb1-OR, Galb,3/4GlcNAc-OR, NeuAca2,3Galb1,3/4GlcNAc-Or, wherein R is an amino acid, a saccharide, an oligosaccharide, or an aglycon group having at least one carbon atom.

8-23. (Canceled)

24. (Currently Amended): An isolated fucosyltransferase protein comprising a polypeptide that has greater than 90% identity to the full length ~~of an amino acid sequence~~ of SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate.

25. (Previously Presented): The isolated fucosyltransferase of claim 24, further comprising an amino acid tag.

26. (Previously Presented): The isolated fucosyltransferase of claim 24, wherein the polypeptide is SEQ ID NO:16.

27. (Previously Presented): The isolated fucosyltransferase of claim 24, wherein the fucosyltransferase catalyzes the transfer of fucose to an acceptor molecule selected from an N-acetylglucosamine residue and a glucose residue.

28-30. (Canceled)

31. (Withdrawn): A method of making a fucosylated oligosaccharide, the method comprising:

contacting the isolated fucosyltransferase of claim 24 with a mixture comprising a donor substrate comprising a fucose residue, and an acceptor substrate comprising a sugar or oligosaccharide, under conditions where the fusion protein catalyzes the transfer of a fucose

residue from the donor substrate to the acceptor substrate, thereby producing a fucosylated oligosaccharide.

32. (Withdrawn): The method of claim 31, wherein the method further comprises a step of purifying the fucosylated oligosaccharide.

33. (Withdrawn): The method of claim 31, wherein a donor substrate is GDP-fucose.

34. (Withdrawn): The method of claim 31, wherein the fucosyltransferase comprises an amino acid tag.

35. (Withdrawn): The method of claim 31, wherein an acceptor substrate comprises a member selected from N-acetylglucosamine and glucose.

36. (Withdrawn): The method of claim 31, wherein the acceptor substrate is Lacto-N-neo-Tetraose (LNnT).

37. (Withdrawn): The method of claim 36, wherein the fucosylated oligosaccharide is Lacto-N-Fucopentaose III (LNFP III).

38. (Withdrawn): The method of claim 31, wherein the mixture further comprises lactose, a β-1,3-N-acetylglucosaminyltransferase, and a β-1,4-galactosyltransferase.

39. (Withdrawn): The method of claim 38, wherein the β-1,3-N-acetylglucosaminyltransferase is a bacterial enzyme.

40. (Withdrawn): The method of claim 39, wherein the β-1,3-N-acetylglucosaminyltransferase is from Neisseria gonococcus.

41. (Withdrawn): The method of claim 38, wherein the β-1,4-galactosyltransferase is a bacterial enzyme.

42. (Withdrawn): The method of claim 41, wherein the β-1,4-galactosyltransferase is from Neisseria gonococcus.

43. (Withdrawn): The method of claim 38, wherein the fucosylated oligosaccharide is Lacto-N-Fucopentaose III (LNFP III).

44. (Withdrawn): A method for producing a fucosylated glycolipid, the method comprising:

contacting the isolated fucosyltransferase protein of claim 24 with a mixture comprising a donor substrate comprising a fucose residue, and an acceptor substrate on a glycolipid, under conditions where the fucosyltransferase catalyzes the transfer of the fucose residue from a donor substrate to the acceptor substrate on the glycolipid, thereby producing a fucosylated glycolipid.

45. (Canceled)

46. (Currently Amended): ~~The isolated fucosyltransferase protein of claim 45, wherein the polypeptide~~ An isolated fucosyltransferase protein identical to a *Helicobacter pylori* fucosyltransferase protein that has greater than 95% identity to a region of at least 200 continuous amino acids of ~~an amino acid sequence of~~ SEQ ID NO:16, wherein the fucosyltransferase catalyzes the transfer of a fucose residue from a donor substrate to an acceptor substrate.

47. (Currently Amended): The isolated fucosyltransferase protein of claim [[45]] 24, wherein the polypeptide has greater than 95% identity to the full-length of ~~an amino acid of~~ SEQ ID NO:16.